**WHAT IS CLAIMED IS:**

1. Apparatus comprising:

a cache including cache lines each of which is configured to store data; and

an eviction mechanism configured to evict data stored in one of the cache lines based on validity state information associated with the data stored in the one cache line.

2. The apparatus of claim 1 in which each of the cache lines is configured to store data that corresponds to consecutive addresses in a main memory.

3. The apparatus of claim 1 in which each cache line has multiple portions.

4. The apparatus of claim 3 further comprising a storage for storing validity bits that track the validity of respective portions of the cache line.

5. The apparatus of claim 4 in which the validity bits are set to a predefined value to indicate that the respective portion has been written in full in one write transaction.

6. The apparatus of claim 5 in which the eviction mechanism is configured to evict the cache line when the validity bits all have the predefined value.

7. The apparatus of claim 1 in which the eviction mechanism is configured to evict the data even if the cache is not full and data in other cache lines is not being evicted at the same time.

8. The apparatus of claim 1, further comprising a memory for storing the data evicted by the eviction mechanism.

9. The apparatus of claim 8, further comprising an input/output device that generates the data stored in the cache.

10. Apparatus comprising:

cache lines, each configured to store bytes of data that correspond to consecutive addresses in a main memory, each cache line corresponding to a group of validity bits, each of the validity bits tracking a portion of the cache line and being set to a predefined value when the tracked portion of the cache line is fully written in one write transaction; and

an eviction component configured to evict the bytes of data stored in one of the cache lines when the group of validity bits corresponding to the cache line are all set to the predefined value.

11. The apparatus of claim 10 in which cache lines are disposed within a write cache memory of a computer chipset.

12. The apparatus of claim 11 in which the cache lines are compatible with a cache coherent protocol.

13. A method comprising:

receiving write transactions associated with data to be written;

storing the data into portions of a single cache line of a cache, and

evicting the data from the cache line when the cache line is full of data according to stored validity information.

14. The method of claim 13, further comprising writing the evicted bytes of data to a main memory.

15. The method of claim 13, further comprising setting validity bits to a predefined value when respective portions of the cache line is written in full.

16. The method of claim 13 in which the write transactions are sent from an input/output device.

17. The method of claim 16 in which each of the write transactions sent from the input/output device writes a first number of data bytes to one of the cache lines, and the eviction component evicts a second number of data bytes in one

eviction operation, the first number being less than the second number.

18. Apparatus comprising:

a computer chipset having a cache memory configured to store write data sent from an input/output device and a mechanism configured to evict the write data from the cache memory when a set of predefined conditions are met.

19. The apparatus of claim 18 in which the cache memory also stores additional write data sent from an additional input/output device, and the mechanism also configured to evict the additional write data from the cache memory when the set of predefined conditions are met.

20. The apparatus of claim 18 in which the cache memory is compatible with a cache coherent protocol.

21. The apparatus of claim 18 in which the input/output device initiates write transactions to send the write data, and the mechanism is configured to combine the write data so that the number of eviction operations performed to evict the write data from the cache memory is less than the number of write transactions initiated by the input/output device.

22. A method comprising:

initiating write transactions by an input/output device to write data;

writing the data into a cache memory;

evicting the data from the cache memory; and

writing the data into a main memory.

23. The method of claim 22 in which the cache memory contains cache lines configured to store data, each cache line corresponding to consecutive addresses in main memory.

24. The method of claim 23 in which each cache line has multiple portions, each portion corresponding to a validity bit that tracks the status of the corresponding portion.

25. The method of claim 24 in which the validity bit is set to a predetermined value responsive of the number of bytes of data written into the corresponding portion.

26. The method of claim 25 in which the evicting the data from the cache memory comprises evicting the data when the validity bits corresponding to a cache line are all set to a predefined value.